

is formed in the interior of the ovule), and a geminal vesicle of 0.09 millim. in diameter. The male ovules, the size of which is a little less than that of the female ova, are full of long filaments, which move briskly when isolated. These two sexual elements exist throughout nearly the whole length of the body, from the commencement of the digestive tube to near its extremity.—*Comptes Rendus*, July 5, 1869, tome lxi. p. 57.

*Note on the Crustacea which live parasitically in Ascidia in the Mediterranean.* By R. BUCHHOLZ.

The Crustacea living as parasites in the Ascidia have been very carefully studied on the shores of Sweden by M. Thorell, and on the French oceanic shore by M. Hesse. In the Mediterranean these parasites had not hitherto been noticed except cursorily. M. Buchholz has just carefully investigated ten species at Naples. Except a *Lichomolgus*, the whole belong to the family Notodelphyidæ, of which M. Thorell has described ten northern species. The genera of this family established by the Swedish naturalist (*Notodelphys*, *Doropygus*, *Botachus*, and *Ascidicola*) appear all to belong to the fauna of Naples, which includes in addition the genera *Notopterophorus*, *Gunentophorus*, and *Goniodelphys*. The last two are as yet exclusively Mediterranean.

The most remarkable peculiarity of the Notodelphyidæ consists in the exceptional form of the thorax in the females, which gives these Crustacea a very peculiar appearance. This region is modified by the extraordinary development of an incubatory cavity, which receives the eggs descending from the ovaries and preserves them until the complete development of the embryo. This cavity is produced by a transformation of the last thoracic segments (in general the last two) into a part projecting on the dorsal side—a part to which M. Thorell gives the name of the *matrical region*.

The movements of these little Crustacea have by no means the vivacity of those of the normal Copepoda. The action of their natatory feet is very slow, at least in the adults, and produces a simple creeping along the walls of the respiratory cavity of the Ascidia, rather than a true natation.

It is not easy to detect the mode of communication of the ovaries with the incubatory cavity. M. Buchholz, however, believes he has ascertained that in the genus *Goniodelphys* the ovaries open directly into this cavity; and he thinks, in opposition to M. Thorell, that this is the case also in the other genera. He is not much disposed to believe that the eggs quit the ovary and pass by the seminal receptacle before entering the incubatory cavity, as M. Thorell supposes to be the case in *Notodelphys*. The external sexual aperture by which the eggs quit the incubatory cavity is placed upon a little papilla, between the last thoracic segment and the dorsal surface of the abdomen, as has already been indicated by M. Thorell. This observer likewise describes a second sexual aperture on the ventral surface. The seminal receptacles are described by him as connected

by a narrow canal with this second aperture, close to which he has found spermatophores attached in a *Doropygus*. M. Buchholz has seen nothing of the kind; but the important observation of M. Thorell appears to have been unknown to him at the time of his own investigations. He saw the eggs quit the uterus by the dorsal aperture, and did not think of seeking any other sexual pore.

M. Buchholz figures and describes the larvæ of the Notodelphyidæ. These are Nauplius-forms very similar to those of the other Copepoda. This, however, was already well known from the researches of Mr. Allman and M. Thorell.—*Siebold & Kölliker's Zeitschrift*, xix. pp. 99–162; *Bibl. Univ.* xxxv. July 15, 1869, *Bull. Sci.* pp. 246–248.

*On the Cæciliæ.* By M. F. LEYDIG.

The little group of the *Cæciliæ* presents so many remarkable peculiarities from a zoological point of view, that the memoir of M. Leydig, although essentially histological, deserves the attention of zoologists. The investigations of that naturalist relate to two species, viz. *Cæcilia lumbricoidea*, Daud., and *C. (Siphonops) annulata*, Mikan.

The structure of the skin of the *Cæciliæ*, leaving out of consideration the scales which exist in some species, agrees with that of the Batrachia in general. The nature of the epidermis was, indeed, long misunderstood. Following Mikan, several authors regarded it only as a mucosity secreted by the cutaneous pores or even by the anus. This error recurs even in the fine memoir of Johannes Müller upon the anatomy of the Amphibia. Rathke was the first to recognize in this supposed mucosity a true epidermis. M. Leydig now actually finds this epidermis covered by a distinct homogeneous cuticle. This epidermic layer is reflected into the numerous excretory canals of the cutaneous glands.

The scales, first discovered by Schneider, have given rise to numerous discussions among naturalists, more especially because these organs are deficient in all other Batrachia. The difference of opinion arises from the fact that one species, *C. annulata*, according to the decisive observations of Bischoff, Rathke, and Leydig, is in reality completely destitute of scales. The histological examination of *C. lumbricoidea* has shown M. Leydig that the deeper layer of the scale is formed by a solid stratified connective tissue filled with stellate cells. Its upper surface is adorned with shining corpuscles, arranged in rather irregular concentric series. M. Mayer calls them globules, M. Mandl cells. They are in reality calcareous concretions. The skin of the *Cæciliæ* presents a laminated structure, already noticed by several authors. This structure is due to numerous cutaneous folds, in the thickness of which the glands are lodged. The scales are placed between these laminæ. They are, however, not free, but attached to the corium by a delicate connective tissue.

The eyes of the *Cæciliæ* deserve particular attention, on account of their rudimentary state. *Cæcilia annulata*, although living at a depth of several feet in the mud of the marshes, has nevertheless